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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Daniel R. Hicks : Date: February 07, 2005
Serial No.: 09/675,620 : IBM Corporation
Group Art Unit: 2122 : Intellectual Property Law **Certificate**
Examiner: E. Kiss : Dept. 917, Bldg. 006-1 **FEB 16 2005**
Filed: September 29, 2000 : 3605 Highway 52 North **of Correction**
Patent No.: 6,810,519 B1 : Rochester, MN 55901-7829

Title: ACHIEVING TIGHT BINDING FOR
DYNAMICALLY LOADED SOFTWARE
MODULES VIA INTERMODULE
COPYING

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I hereby certify that this correspondence is
being deposited with the United States Postal
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Box 1450, Alexandria, VA 22313-1450, on

February 07, 2005

(Date of Deposit)

Susan K. Berge
Susan K. Berge

PETITION FOR CERTIFICATE OF CORRECTION

In the matter of Patent Number 6,810,519 B1 issued on October 26, 2004, a careful check
of the same against the file of the attorney shows errors in the patent chargeable to the Official
Printer, as shown on the attached Certificate of Correction.

It is requested that the attached Certificate of Correction be certified and issued to
International Business Machines Corporation, Rochester, Minnesota 55901.

Respectfully submitted,

By *Grant A. Johnson*
Grant A. Johnson
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Docket No.: ROC920000200US1
Serial No.: 09/675,620

FEB 17 2005

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : US 6,810,519 B1
DATED : Oct. 26, 2004
INVENTOR(S) : Daniel Rodman Hicks

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Please amend claims as per Response filed April 7, 2004 attached as this was a Patent Office error.

MAILING ADDRESS OF SENDER:

Grant A. Johnson (Attorney Reg. No.: 42,696)
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3605 Highway 52 North
Rochester, MN 55901-7829

PATENT NO. _____
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FACSIMILE COVER SHEET

DATE: April 7, 2004
FILE NO: ROC9200000200US1
TO: Examiner Eric Kiss
FAX NO: 703/872-9306
COMPANY: USPTO
FROM: Gero G. McClellan
PAGE(S) with cover: 8
ORIGINAL TO FOLLOW? YES NO

RESPONSE TO OFFICE ACTION DATED FEBRUARY 19, 2004

U.S. SERIAL NO.: 09/675,620
FILING DATE: September 29, 2000
INVENTOR: Hicks
EXAMINER: Eric Kiss
GROUP ART UNIT: 2122
CONFIRMATION NO.: 9570

CONFIDENTIALITY NOTE

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PATENT

Atty. Dkt. No. ROC920000200US1

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Hicks

Serial No.: 09/675,620

Confirmation No.: 9570

Filed: September 29, 2000

For: Achieving Tight Binding for Dynamically Loaded Software Modules Via Intermodule Copying

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Group Art Unit: 2122

Examiner: Kiss, E.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF FAX
37 CFR 1.8

Dear Sir:

RESPONSE TO OFFICE ACTION DATED FEBRUARY 19, 2004

In response to the Office Action dated February 19, 2004, having a shortened statutory period for response set to expire on May 19, 2004, please enter this response and reconsider the claims pending in the application for reasons discussed below. While no fees are believed due, the Commissioner is hereby authorized to charge counsel's Deposit Account No. 09-0465 for any fees, including extension of time fees or excess claim fees, required to make this response timely and acceptable to the Office.

Amendments to the Specification begin on page 2 of this paper. Amendments to the Claims are reflected in the listing of claims which begins on page 4 of this paper. Remarks/Arguments begin on page 6 of this paper.

IN THE SPECIFICATION:

Please replace the **BRIEF DESCRIPTION OF THE DRAWINGS** (excepting the header itself) with the following amended paragraph:

The teachings of the present invention can be readily understood by considering the following detailed description in conjunction with the accompanying drawing in which:

FIGURE 1 is a block diagram of a computer system consistent with the invention;

FIGURE 2 is a block diagram of an exemplary software environment for the computer system of FIGURE 1;

~~FIGURES 3A, 3B and 4-8 depict code segments useful in understanding the invention;~~

FIGURE 3A depicts a code segment illustrating a direct call of a subroutine;

FIGURE 3B depicts a code segment illustrating an indirect call of a subroutine;

FIGURE 4 depicts a code segment 400 illustrating an inlined access of a subroutine;

FIGURE 5 depicts a code segment illustrating an optimization enabled by the inlining technique of FIGURE 4;

FIGURE 6 depicts a code segment illustrating the use of multiple copies of statically stored objects;

FIGURE 7 depicts a code segment useful in understanding the present invention, and more particularly illustrates a problem that can occur with static storage if multiple copies of a class attempt to share the same static;

FIGURE 8A depicts a code segment and address space utilization useful in understanding the present invention;

FIGURE 8B depicts a reentrant static addressing scheme utilizing the code segment of FIGURE 8A;

FIGURE 9 depicts a data structure representing a Java® class file;

FIGURE 10 depicts a data structure representing a loaded Java® class;

FIGURE 11 depicts a data structure representing a compiled Java® class;

FIGURES 12 and 13 depict code segments useful in understanding the invention;

FIGURE 14 depicts a graphical representation useful in understanding the invention;

FIGURE 15 depicts a plurality of data structures illustrating constant pool entries and constant resolution entries;

FIGURES 16A and 16B (collectively referred to as FIGURE 16) depict[[s]] a flow diagram of a constant resolution process;

FIGURE 17 depicts a graphical representation useful in understanding the invention;

FIGURE 18 depicts a flow diagram of a process according to the invention; and

FIGURE 19 depicts a flow diagram of a method for compiling an externally resolved subroutine according to an embodiment of the invention.

To facilitate understanding, identical reference numerals have been used, where possible, to designate identical elements that are common to the figures.

IN THE CLAIMS:

Please amend the claims as follows:

22. (Currently Amended) A computer readable medium, comprising a framework for loading class data structures prior to execution and for resolving called Java® object-oriented programming environment methods, said framework preferentially resolving said called Java® object-oriented programming environment methods as cloned versions of Java® object-oriented programming environment methods within a compilation unit common to a calling Java® object-oriented programming environment method, said framework resolving respective called Java® object-oriented programming environment methods outside said common compilation unit in the event of a version conflict between said respective cloned and external Java® object-oriented programming environment methods.

23. (Currently Amended) The computer readable medium framework of claim 22, wherein said version conflict is determined with respect to at least one of a timestamp, a cyclic redundancy check (CRC) and a version control identifier.

24. (Currently Amended) The computer readable medium framework of claim 22, wherein said called object-oriented programming environment methods are related to internal constant resolution entries items that are compiled to produce in-line executable code.

25. (Currently Amended) The computer readable medium framework of claim 22, wherein an executing Java® object-oriented programming environment method is provided addressability to a runtime version of its entry in a container class method table.

26. (Currently Amended) The computer readable medium framework of claim 23, wherein if a constant pool entry provided by said calling Java® object-oriented

programming environment method is to be resolved to a clone class, said framework performs the steps of:

loading said clone class; and

modifying said loaded clone class to represent the respective clone and parent classes for said constant pool entry.

27. (Currently Amended) The computer readable medium framework of claim 26, wherein said step of modifying comprises the steps of overlaying a plurality of fields within said clone class to represent corresponding structures of said parent class.

28. (Currently Amended) The computer readable medium framework of claim 26, wherein a determination of whether said constant pool entry provided by said calling Java® object-oriented programming environment method is to be resolved to a clone class is made by performing the steps of:

extracting a corresponding constant pool entry pointer;

resolving the constant pool entry to its class; and

determining if the constant pool entry has been resolved to a clone class.

REMARKS

This is intended as a full and complete response to the Office Action dated February 19, 2004, having a shortened statutory period for response set to expire on May 19, 2004. Please reconsider the claims pending in the application for reasons discussed below.

Claims 22-28 are pending in the application. Claims 22-28 remain pending following entry of this response. Claims 22-28 have been amended. Applicants submit that the amendments do not introduce new matter.

The Examiner objects to the disclosure because related figures are referred to individually and collectively. The Examiner points out that this approach is proper under 37 CFR §1.74, but suggests that clarity and consistency in the disclosure could be promoted by referring to individual figures. Although not required of the Applicant, Appropriate corrections have been made in order to facilitate allowance.

Claims 22-28 stand rejected under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner states that the claims improperly use the trademark JAVA®. However, the Examiner also states that Applicant's recited "Java® method[s]" is interpreted as "object-oriented programming environment method[s]". Applicant has amended the claims accordingly, thereby obviating any potential misuse of trademarks and also making explicit that the claims are not limited to the Java programming language. Applicant therefore respectfully requests that the rejection be withdrawn and that the claims be allowed.

Claims 22-28 stand rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Specifically, the Examiner states that the claimed framework constitutes a computer program representing a computer listing *per se*. Accordingly, Applicant has amended the claims to recite that the framework is contained on a computer readable medium. Illustrative computer readable mediums are provided in the specification on, for example, page 6, line 27 through page 7, line 9. Applicant therefore respectfully requests that the rejection be withdrawn and that the claims be allowed.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the

primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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